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(21)Application number : 07-320046 (71)Applicant : SONY CORP
(22)Date of filing : 08.12.1995 (72)Inventor : TAKAHASHI MASASHIGE

(54) TELEVISION BROADCASTING DEVICETELEVISION BROADCASTING METHODTELEVISION SIGNAL RECEPTION DEVICETELEVISION SIGNAL RECEPTION METHODREMOTE CONTROLLER AND REMOTE CONTROL METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To provide various services to a user by means of two-way communication through the use of existed equipments such as an internet by generating a signal containing domain information on the network supplying network service related to a TV broadcast program and multiplexing the generated signal with the signal of the TV broadcast program.
SOLUTION: A network address signal generation circuit 12 generating the signal containing domain information on the network supplying network service related to the TV broadcasting programa multiplexer 13 multiplexing the signal with the signal of the TV broadcasting program and a transmission circuit 14 outputting the signal are provided. The signal containing URL information on network service related to the TV broadcasting program is multiplexed with a TV video signal so as to transmit them. A receiver receives themconnects the signals to an access point corresponding to URL via the internetreceives data and

outputs/displays a home page on CRT.

CLAIMS

[Claim(s)]
[Claim 1]A television broadcasting apparatus comprising:
A creating means which generates a signal including network domain information that a network service relevant to a television broadcasting program is provided.
A multiplexing means which multiplexes said signal generated by said creating means to a signal of said television broadcasting program.
An output means which outputs said television broadcasting signal multiplexed by said multiplexing means.

[Claim 2]A signal including network domain information that a network service relevant to a television broadcasting program is provided is generatedA television broadcasting method multiplexing said generated signal to a signal of said television broadcasting programand outputting said multiplexed television broadcasting signal.
[Claim 3]A television signal receiving set comprising:
An extraction means to extract said domain information from a television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexed.
A connecting means linked to a predetermined access point corresponding to domain information on said network.
A reception means which receives a predetermined data signal transmitted from said access point connected by said connecting means.
A processing means to process said data signal received by said reception means.

[Claim 4]The television signal receiving set according to claim 3 when said connecting means is inputted [predetermined instructions] within a predetermined periodwherein it performs connection processing to said access point.
[Claim 5]The television signal receiving set according to claim 3 connecting said connecting means to said access point which provides said predetermined network service via a telephone line.
[Claim 6]From a television broadcasting signal which a signal including network domain information that a network service relevant to a

television broadcasting program is provided has multiplexed. A television signal receiving method receiving a predetermined data signal which extracts said domain informationconnects with a predetermined access point corresponding to domain information on said networkand is transmitted from said connected access pointand processing said received data signal.
[Claim 7]A television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexed is receivedWhen said domain information is extracted and memorized from said television broadcasting signal and predetermined instructions are inputted from a remote controlA remote control provided with a control means operated when making said domain information which memorized a television signal receiving set which accesses said memorized domain information to said television signal receiving set in a remote control which carries out remote control start access.
[Claim 8]In a remote control method which carries out remote control of the television signal receiving set which receives a television broadcasting signalSaid television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexedWith said television signal receiving setreceive and with said television signal receiving set. Extract and memorize said domain information from said television broadcasting signaland a screen including an image corresponding to said domain information received with said television signal receiving set is displayedA remote control method making said television signal receiving set access said memorized domain information via said network in the state where a screen corresponding to said domain information is displayed when a signal corresponding to a predetermined key is inputted from said remote control.

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention A television broadcasting apparatusthe television broadcasting methoda television signal receiving setAbout a television signal receiving methoda remote controland a remote control methodA television (TV) broadcast device multiplexes and transmits especially a signal including the network domain information

that the network service relevant to a TV broadcast program is provided to a TV broadcast signalA television receiver receives and connects this to a corresponding access pointIt is related with the television broadcasting apparatus which processed the data signal corresponding to a predetermined network servicethe television broadcasting methoda television signal receiving seta television signal receiving methoda remote controland a remote control method.

[0002]

[Description of the Prior Art]In recent yearsa high-speed-data communications network like ISDN (Integrated Service Digital Network) or a digital cable is usedand the art of performing two-way communication is spreading.

[0003]Since it is possible in B-ISDN (broadband ISDN) to transmit an animation video signala mass computer-data signaletc. at high speed in addition to an audio signala facsimile signala still picture signaletc.Transmit the television video signal containing a high definition television and its additional information data by this B-ISDNand a television receiver receives thisand carry out output displaying of the image to CRTand. Additional information data can be processed and the two-way communication system which outputs various kinds of data signals which include a picture from a television receiver further can be realized.Specificallyelectronic votinghome shoppinga televiewer participatory type programan electronic request to print out filesetc. are realizablefor example.

[0004]

[Problem(s) to be Solved by the Invention]Howeverfor examplearrange the television receiver for two-way communication at each homeand at it by B-ISDN. When realizing the above-mentioned two-way communication systemit is necessary to arrange a high speed communication medium like a fiber optic cable as a transmission medium of the information from each home to a switchboardand realization in the actual condition is difficult.

[0005]On the other handB-ISDN was not usedbut when the above services were realized using the telephone line which has spread through each homethe network had to be built for every service and SUBJECT that flexibility was scarce occurred. In order to obtain the response time of sufficient data communications to the user of wide range a large numberSUBJECT to be fixed [of an access point] occurred.

[0006]This invention is made in view of such a situationand provides various kinds of services by two-way communication to a user using existing equipment like the Internet.

[0007]
[Means for Solving the Problem]written this invention is characterized by it having been alike and comprising the following at claim 1.
A creating means which generates a signal including network domain information that a network service relevant to a television broadcasting program is provided.
A multiplexing means which multiplexes a signal generated by creating means to a signal of a television broadcasting program.

[0008]The television broadcasting broadcasting method according to claim 2 generates a signal including network domain information that a network service relevant to a television broadcasting program is providedand multiplexes a generated signal to a signal of a television broadcasting program.
[0009]Written this invention is characterized by a receiving set comprising the following at claim 3.
An extraction means to extract domain information from a television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexed.
A connecting means linked to a predetermined access point corresponding to network domain information.
A reception means which receives a predetermined data signal transmitted from a connected access point.
A processing means to process a received data signal.

[0010]The television signal receiving method according to claim 6From a television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexed. A predetermined data signal which extracts domain informationconnects with a predetermined access point corresponding to network domain informationand is transmitted from a connected access point is receivedand a received data signal is processed.
[0011]The remote control according to claim 7 is provided with a control means operated when making domain information memorized to a television signal receiving set start access.
[0012]The remote control method according to claim 8 a television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexedWith a television signal receiving setreceive

and with a television signal receiving set. In the state where extract and memorize domain information from a television broadcasting signaldisplay a screen including an image corresponding to domain information received with a television signal receiving setand a screen corresponding to domain information is displayedWhen a signal corresponding to a predetermined key is inputted from a remote controla television signal receiving set is made to access memorized domain information via a network.

[0013]In the television broadcasting apparatus according to claim 1a signal with which a creating means includes network domain information that a network service relevant to a television broadcasting program is provided is generatedand a multiplexing means multiplexes a generated signal to a signal of a television broadcasting program.

[0014]In a television broadcasting method according to claim 2a signal including network domain information that a network service relevant to a television broadcasting program is provided is generatedand a generated signal multiplexes to a signal of a television broadcasting program.

[0015]In the television signal receiving set according to claim 3From a television broadcasting signal which a signal with which an extraction means includes network domain information that a network service relevant to a television broadcasting program is provided has multiplexed. Domain information is extracteda connecting means connects with a predetermined access point corresponding to network domain informationa reception means receives a predetermined data signal transmitted from a connected access pointand a processing means processes a received data signal.

[0016]In the television signal receiving method according to claim 6From a television broadcasting signal which a signal including network domain information that a network service relevant to a television broadcasting program is provided has multiplexed. Domain information is extracteda predetermined data signal with which it is connected and a predetermined access point corresponding to network domain information is transmitted from a connected access point is receivedand a received data signal is processed.

[0017]In the remote control according to claim 7when a control means makes domain information memorized to a television signal receiving set start accessit is operated.

[0018]A television broadcasting signal which a signal which includes network domain information that a network service relevant to a television broadcasting program is providedin the remote control method

according to claim 8 has multiplexedWith a television signal receiving setit is received and with a television signal receiving set. In the state where domain information is extracted and memorized from a television broadcasting signala screen including an image corresponding to domain information received with a television signal receiving set is displayedand a screen corresponding to domain information is displayedWhen a signal corresponding to a predetermined key is inputted from a remote controlmemorized domain information is accessed by television signal receiving set via a network.
[0019]
[Embodiment of the Invention]Although the example of this invention is described belowit is as followswhen an example [/ in the parenthesis after each means] (howeveran example) is added and the feature of this invention is describedin order to carry out correspondence relation between each means given in a claimand the following examples for whether being **. Howeverof coursethis statement does not mean limiting to what indicated each means.
[0020]written this invention is characterized by it having been alike and comprising the following at claim 1.
The creating means which generates a signal including the network domain information that the network service relevant to a television broadcasting program is provided (for examplenetwork address signal generating circuit 12 of drawing 1).
The multiplexing means which multiplexes the signal generated by the creating means to the signal of a television broadcasting program (for examplemultiplexer 13 of drawing 1).
The output means which outputs the television broadcasting signal multiplexed by the multiplexing means (for examplesending circuit 14 of drawing 1).

[0021]Written this invention is characterized by a receiving set comprising the following at claim 3.
An extraction means to extract domain information from the television broadcasting signal which the signal including the network domain information that the network service relevant to a television broadcasting program is provided has multiplexed (for exampleVBI data slicer 32 of drawing 2).
The connecting means linked to the predetermined access point corresponding to network domain information (for examplemicroprocessor 34 of drawing 2 which processes Step S8 of drawing 4).
The reception means which receives the predetermined data signal

transmitted from the access point connected by the connecting means (for exampledata modem 38 of drawing 2).
A processing means to process the data signal received by the reception means (for examplemicroprocessor 34 of drawing 2 which processes Step S10 of drawing 4).

[0022]The remote control according to claim 7 receives the television broadcasting signal which the signal including the network domain information that the network service relevant to a television broadcasting program is provided has multiplexedWhen domain information is extracted and memorized from a television broadcasting signal and predetermined instructions are inputted from a remote controlIt has a control means (for exampleconnection key K5 of drawing 3) operated when making the domain information which memorized the television signal receiving set which accesses the memorized domain information to the television signal receiving set in the remote control which carries out remote control start access.
[0023]Drawing 1 is a block diagram showing the composition of one example of the TV broadcast device of this invention.
[0024]For example the television signal generation circuit 11 comprises a videotape recorder for broadcastetc.carries out raw Narimasu width of a TV video signal and the TV audio signaland is made as [output / to the multiplexer 13].
[0025]The network address signal generating circuit 12 changes into a signal the URL (Uniform Resource Locators) information on the domain of a predetermined network that the service on the Internet relevant to a TV broadcast signal is providedIt is made as [output / to the multiplexer 13].
[0026]The scanning line of the vertical blanking interval of the TV video signal into which the multiplexer 13 was inputted from the television signal generation circuit 11. A signal including the URL information inputted into (for examplethe scanning line which is not used or used by a teletext) from the network address signal generating circuit 12 is multiplexedand it is further made as [output / to the sending circuit 14 / multiplex a TV audio signal and].
[0027]The TV broadcast signal outputted from the multiplexer 13 is made as [output / via the antenna 2 / through radio]after being amplified in the sending circuit 14.
[0028]Drawing 2 is a block diagram showing the composition of the television receiver 21 adapting the television signal receiving set of this invention.

[0029]It is received by the TV antenna 22 and the TV broadcast signal including URL information is made as [input / into the tuner 31 of the television receiver 21].
[0030]A user's operation of the remote commander 23 will transmit the signal corresponding to the operation to the television receiver 21 with an infrared signal from the remote commander 23. This signal is made as [input / into the microprocessor 34]after being inputted via the light sensing portion 45 of the television receiver 21 and being further changed into an electrical signal.
[0031]The microprocessor 34 reads a control program into the power up of the television receiver 21 from ROM36and is made as [perform / various control of the television receiver 21]. If the indication signal which directs a channel selection of a predetermined TV broadcast station is inputted via the light sensing portion 45 from the remote commander 23the microprocessor 34 is made as [output / to the tuner 31 / the channel selection command corresponding to this indication signal].
[0032]The tuner 31 carries out the reception recovery of the TV broadcast signal of the specified TV broadcast channel according to the command from the microprocessor 34and is made as [output / to video / audio selection circuitry 33 / an audio signal and a video signal].The tuner 31 outputs a video signal to the VBI (Vertical Blanking Interval: vertical blanking interval) data slicer 32and is made as [make / the signal multiplexed to VBI of the video signal / extract].
[0033]The VBI data slicer 32 extracts the alphabetic data signal for teletextsand a signal including URL information from the video signal inputted from the tuner 31and is made as [output / to the microprocessor 34]. Thenthis URL information is made as [memorize / via the microprocessor 34 / RAM35].
[0034]When the indication signal from the remote commander 23 through the light sensing portion 45 is what directs connection with the access point which provides a network servicethe microprocessor 34URL information is read from RAM35 and it is made as [output / to the data modem 38 / the signal transmission for connecting with a predetermined provider]. The data modem 38 modulates this signal transmission to the predetermined signalling frequency based on a telephone lineand is made as [output / to a telephone line / via the modular jack 24].
[0035]It is transmitted via a telephone line via a provider's machinethe processed-data signal from the offer origin of a predetermined network service is inputted into the data modem 38 via the modular jack 24and after getting overit is made as [input / into the microprocessor 34 / further].

[0036]The microprocessor 34 processes this processed-data signalgenerates the picture image data and voice data corresponding to serviceand is made as [output / voice data / output picture image data to the video encoder 37and / to the audio encoder 39 /respectively].
[0037]The video encoder 37 changes into a signal the picture image data inputted from the microprocessor 34and is made as [output / to video / audio selection circuitry 33].
[0038]The audio encoder 39 changes into an audio signal the voice data inputted from the macro processor 34and is made as [output / to video / audio selection circuitry 33].
[0039]Video / audio selection circuitry 33 chooses the video signal of either or both sides suitably among the video signal inputted from the tuner 31and the video signal inputted from the video encoder 37and is made as [output / to the video control circuit 41].
[0040]Video / audio selection circuitry 33 chooses one of audio signals among the audio signals inputted from the tuner 31 or the audio encoder 39and is made as [output / to the audio signal amplifying circuit 40].
[0041]The video signal control circuit 41 changes a video signal into a RGB codeand is made as [output / to the RGB code amplifying circuit 42].
[0042]The RGB code outputted from the video signal control circuit 41 is made as [output / to CRT43]after being amplified by the RGB code amplifying circuit 42.
[0043]The audio signal outputted from video / audio signal selection circuitry 33 is made as [output / to the loudspeaker 44]after being amplified by the audio signal amplifying circuit 40.
[0044]Drawing 3 is a block diagram showing the composition of one example of the remote commander 23.
[0045]The remote commander 23 shown in drawing 3 is made to the television receiver 21 as [direct / processing of the both sides of the processing about the output process and network service of a TV broadcast signal].
[0046]The power key K1 is operated when supplying a power supply to the television receiver 21and the numerical keypad K2 is operated when tuning in the TV broadcast channel of the number corresponding to the operated key. the TV broadcast channel which each key of the volume UP/DOWN key K3 is operated when increasing a sound (or reduction)and has tuned in each key of the channel UP/DOWN key K4 now -- following (or -- front) -- it is made as [operate / when receiving a TV broadcast channel].
[0047]Connection key K5 is made as [operate / when making connection to

the offer origin of a network service connectable at the time of operation of this key].
[0048]The trackball K7 is operated when moving the cursor currently displayed on CRT43 in the corresponding directionand the click key K8 is made as [operate / when opting for selection of the processing corresponding to the position of cursor].
[0049]When output displaying of the image by a network service is not carried out to CRT43the indication instruction by operation of the trackball K7 and the click key K8 is made as [ignore].
[0050]Nextthe processing operation of the television receiver 21 is explained with reference to the flow chart of drawing 4.
[0051]Operation of the television receiver 21 in case the alphabetic data signal and the TV broadcast signal which has multiplexed neither of the signal including URL information are outputted to VBI of the TV video signal from introduction and a TV broadcast stationand the processing operation corresponding to it are explained.
[0052]When a user directs the channel selection of a predetermined TV broadcast channel by operation of the numerical keypad K2 or the channel UP/DOWN key K4 after operation of the power key K1 of the remote commander 23 shown in drawing 3at Step S1 of drawing 4. The indication signal from the remote commander 23 is inputted into the microprocessor 34 via the light sensing portion 45 of the television receiver 21.
[0053]Corresponding to thisthe microprocessor 34 outputs the channel selection command of the TV broadcast channel specified to the tuner 31. According to this channel selection commandthe tuner 31 chooses a predetermined TV broadcast channeland outputs an audio signal and a video signal to video / audio selection circuitry 33.
[0054]At continuing Step S2the video signal control circuit 41 changes into a RGB code the video signal inputted from video / audio selection circuitry 33and outputs it to the RGB code amplifying circuit 42. Thenafter this RGB code is amplified in the RGB code amplifying circuit 42it is outputted to CRT43.
[0055]After an audio signal is inputted into the audio signal amplifying circuit 33 via video / audio selection circuitry 41 and is amplified in this circuitit is outputted to the loudspeaker 44.
[0056]Thenit is judged at Step S3 whether the signal has multiplexed the microprocessor 34 to VBI of the TV video signal (it is judged whether data was inputted from the VBI data slicer 32). Since the signal has not multiplexed to VBI of the TV video signal in nowthe judgment of NO is made and a user's operation in processing of the TV broadcast signal in this case is ended.

[0057]Thusoutput displaying of the TV image of a TV broadcast channel is carried out from CRT43and TV sound is outputted from the loudspeaker 44.
[0058]Drawing 5 expresses one display example of the screen displayed on CRT43 by processing of Step S2.
[0059]The character string A of drawing 5 expresses URL transmitted as a part of picture into a TV video signal. It may be made it not only to to display URLbut to announce as an output of a TV audio signal.
[0060]Thusif URL of the network service offer origin which provides the service relevant to a TV broadcast channel for CRT43 is displayedwith the personal computer of each home. Manual input of the URL can be carried out from a keyboardit can connect with the access point shown in this URLand the service relevant to a TV broadcast channel can also be received.
[0061]Howeverif manual input of the URL was carried outoperativity is bad and inconvenient. Thena broadcasting station is transmitted also as BVI at the same time it broadcasts URL as a part of picture.
[0062]Thennextoperation of the television receiver 21 when the TV broadcast signal which URL information has multiplexed is outputted to VBI of a TV video signal from a TV broadcast station in the state of nowand the processing operation corresponding to it are explained.
[0063]The microprocessor 34 performs processing of Step S1 thru/or Step S3 like the case where it mentions above. It is judged whether in nowthe judgment of YES was made at Step S3and furtherby step S4when outputting an alphabetic data signalthe signal which output displaying of it is carried outis Step S5and includes URL information in VBI has multiplexed the microprocessor 34. The judgment of YES is made and the microprocessor 34 makes RAM35 memorize URL information at Step S6 in now. The microprocessor 34 displays the character string B as outputted OSD data to the video encoder 37for exampleshown in drawing 6 on CRT43.
[0064]The signal which includes URL information in VBI of a TV video signal has multiplexed the character string B of drawing 6and a user is told about the signal including this URL information having been received with the television receiver 21. Thusthe user can recognize having received the signal including URL information.
[0065]Thena user judges whether it connects with a network service during the period when URL (character string A) is displayed (to or inside of fixed time (this time is transmitted by BVI or is beforehand set as the predetermined value)) at Step S7. When it is judged that a user does not connectoperation after it is ended. The microprocessor 34 makes the character string B eliminate from a screenwhen predetermined time passes. The character string A is eliminated to predetermined

timing (broadcast of URL is ended). After the character string A is eliminated (or fixed time lapse of after)even if a user operates connection key K5the operation is disregarded and connection processing which is mentioned later is not performed.

[0066]A user does the depression of the connection key K5 of (during the period (to or inside of fixed time) when URL is displayed)and the remote commander 23 in the state of the screen shown in drawing 6when it is judged that it connects with a network service. At this timethe judgment of YES is made at Step S7and it branches to Step S8.

[0067]At Step S8the indication signal corresponding to operation of connection key K5 is inputted into the microprocessor 34 via the light sensing portion 45. Corresponding to thisthe microprocessor 34 reads URL information from RAM35and outputs the signal transmission for connecting with the access point corresponding to URL to the data modem 38. The data modem 38 modulates this signal transmissionand outputs it to a telephone line via the modular jack 24. At this timethe microprocessor 34 outputs the alphabetic data (OSD data) for telling a user about the start of connection processing to the video encoder 37. This alphabetic data is inputted into the video signal control circuit 41 via the video encoder 37and the video / audio selection circuitry 33is superimposed by the TV video signaland is outputted to CRT43 via the RGB code amplifying circuit 42.

[0068]Drawing 7 expresses the display example of the screen by which did in this way and output displaying was carried out to CRT43. The character string C of drawing 7 carries out the video output of the alphabetic data outputted from the microprocessor 34and it means having started connection processing.

[0069]Thenby step S9after being connected to the access point corresponding to URLthe processed data corresponding to a network service are transmitted via a telephone line from an access pointand are inputted into the microprocessor 34 via the modular jack 24 and the data modem 38.

[0070]At following Step S10the microprocessor 34 processes these processed datagenerates the picture image data and voice data corresponding to a network serviceoutputs picture image data to the video encoder 37and outputs voice data to the audio encoder 39. At this timethe microprocessor 34 stops the output of a TV video signal to video / audio selection circuitry 33. The video signal encoded with the video encoder 37 is outputted to CRT43 via video / audio selection circuitry 33the video signal control circuit 41and the RGB code amplifying circuit 42. The audio signal modulated with the audio encoder 39 is outputted to

the loudspeaker 44 via video / audio selection circuitry 33and the audio signal amplifying circuit 40.
[0071]Thusthe screen shown in drawing 7 is eliminated and the offer screen of the network service instead generated by having processed processed data is displayed on CRT43. The sound corresponding to a network service is outputted from the loudspeaker 44.
[0072]Drawing 8 is carried out in this wayand expresses the display example of the offer screen (homepage) of the network service displayed on CRT43.
[0073]The screen shown in drawing 8 expresses the homepage which provides the information about the 'house' displayed on the screen shown in drawing 7. The microprocessor 34 displays the cursor D for choosing various kinds of services as this screen from a homepage.
[0074]On the screen shown in drawing 8a user's operation of the trackball K7 of the remote commander 23 will input the indication instruction corresponding to it into the microprocessor 34. The microprocessor 34 generates the picture image data made to move the cursor D in the direction corresponding to operation of the trackball K7and outputs it to the video encoder 37. Thusthe cursor D moves corresponding to operation of the trackball K7.
[0075]If the depression of the click key K8 is carried out after a user operates the trackball K7 and moves the cursor D to a positiona corresponding indication signal will be inputted into the microprocessor 34and the microprocessor 34 will perform processing corresponding to the position of the cursor D. When the processing corresponding to the position of the cursor D is what requires another network servicethe microprocessor 34 transmits the requirement signal by a telephone line to an access point via the data modem 38 and the modular jack 24 again.
[0076]Thenthe microprocessor 34 receives the processed data transmitted from the access point corresponding to predetermined URL via the data modem 38Processed data are processed againthe picture image data and voice data corresponding to service are generatedand it outputs to the video encoder 37 and the audio encoder 39respectively.
[0077]Thusthe microprocessor 34 performs processing corresponding to the position of the cursor Dand acquires processed data via the data modem 38 suitably if needed.
[0078]When terminating a network servicea user directs the end of a network service to the macro processor 34 by carrying out the depression of the click key K8after moving the cursor D to the predetermined icon on a display screen by operation of the trackball K7.
[0079]The microprocessor 34 is Step S11controls video / audio selection

circuitry 33and makes the output of a TV video signal start corresponding to this. Thusthe screen of TV image as the output process of TV image and the output process of TV sound resumed and again shown in drawing 5 as a result is displayed on CRT43.
[0080]Thusif neededit can connect with the access point corresponding to URL automaticallyand a network service can be enjoyedviewing and listening to a TV broadcast program by making VBI of a TV video signal multiplex a signal including URL informationand transmitting to it.
[0081]Under the present circumstancesthe user does not need to operate two or more keys and does not need to input URL which consists of two or more charactersand since connection processing is started only by operating one connection key K5his operativity improves. Since operation becomes easythe purveyor of service can expect access from more users.
[0082]Drawing 9 is a block diagram showing the composition of the example at the time of making a main part become independent of the television receiver 21 of drawing 1and considering it as a VBI receiver.
[0083]The VBI receiver 51 which shows drawing 9 provides the video output portion and voice response portion of the television receiver 21 of drawing 2 in an external deviceand is made as [perform / only processing about a signal including the URL information multiplexed to BVI of the TV broadcast signal]. In the VBI receiver 51 which shows drawing 9the same numerals are given to the case of drawing 2and the corresponding portionand the explanation is omitted suitably.
[0084]The navigational panel 46 is made as [direct / various kinds of operations of the VBI receiver 51for examplethe channel selection operation of a predetermined TV broadcast channel or various kinds of processing operation in the display screen of a network service].
[0085]The audio signal and video signal which are outputted from the VBI receiver 51 and other various AV (AUDIO VISUAL) apparatus (not shown) are made as [output / to loudspeaker 52 and CRT53 /respectively]. The switching arrangement (not shown) is installed between the VBI receiver 51 and various AV equipmentand CRT53 or the loudspeaker 52and it is made as [output / suitably/ it / to CRT53 or the loudspeaker 52 / choose the signal outputted from the VBI receiver 51 and various AV equipmentand].
[0086]Since the VBI receiver's 51 processing operation is the same processing operation as the thing except the operation about the video output portion and voice response portion of the television receiver 21 which are shown in drawing 2the explanation is omitted.
[0087]Thusa device (VBI receiver 51) including processing of a signal including the URL information multiplexed to VBIand communications processing with an access pointCRT and a loudspeaker are sharable by

separating the device (the loudspeaker 52 and CRT53) which outputs an image and a sound with the BVI receiver 51 and various AV equipment.
[0088]Drawing 10 is a block diagram showing the composition of the example of the VBI receiver 61 at the time of separating the portion which performs data communications and processing of processed data further from the VBI receiver 51 of drawing 9.
[0089]The microprocessor 34 in this case is made as [output / via the antenna 62 / through radio]after reading URL information from RAM35 and changing into an electrical signal. The signal of the URL information outputted from the antenna 62 is made as [receive / by the antenna which the terminal terminal 63 possesses].
[0090]It connects with a corresponding access point via a telephone line based on the signal of URL informationand the terminal terminal 63 is made as [receive / the processed data of a predetermined network service / via a telephone line].
[0091]The terminal terminal 63 is made as [output / to loudspeaker 64 and CRT65 /respectively]after memorizing in the memory which builds in these processed data and generating the voice data and picture image data corresponding to a network service based on processed data.
[0092]Thusthe offer screen of a network service as shown in drawing 8 is displayed on CRT65. On this screenthe user can operate the keyboard or mouse provided to a terminal terminaland can enjoy desired service.
[0093]Although the microprocessor 34 outputted URL data through radio via the antenna 62 and presupposed that the antenna built in the terminal terminal 63 receives in the example shown in drawing 10The microprocessor 34 transmits URL data with infrared rays via luminescence DAODOand this can be received with the photo detector which the terminal terminal 63 contains. The terminal terminal 63 is connected with the VBI receiver 61 with a cableand it may be made to transmit URL data via this cable.
[0094]By thusthe thing for which the receiving part and processing part of a signal including URL information are separated. For exampleit can respond to two or more users by preparing the one VBI receiver 61 and two or more terminal terminals 63without only the number of users preparing the television receiver 21 as shown in drawing 2.
[0095]Also in the example shown in drawing 9 and drawing 10directions can be inputted by a remote commander as shown in drawing 3.
[0096]The service which connects with the access point which provides the network service relevant to a program by one operation (operation of connection key K5)and corresponds to it is enjoyableviewing and listening to a TV broadcast program as mentioned above. Thereforeit is

not necessary to carry out manual input of the URL which consists of two or more alphabetical lettersand quick operation is attained.
[0097]Since what is necessary is just to include the comparatively small amount of information of only domain information on a network service like URL in the signal which makes a TV broadcast signal multiplex and is transmitted as mentioned abovethis invention can be realized easily technically.
[0098]Although it presupposed that a signal including URL information is multiplexed and transmitted to VBI of a TV broadcast signal in the above-mentioned examplethe domain information on network servicessuch as URLcan also be added and transmitted to the data packet-ized by digital broadcastingsuch as satellite broadcastingfor example.
[0099]
[Effect of the Invention]According to the television broadcasting apparatus according to claim 1 and the television broadcasting method according to claim 2as mentioned above. Since a signal including the network domain information that the network service relevant to a television broadcasting program is provided is generated and the generated signal was multiplexed to the signal of the television broadcasting programThe service which acquires promptly the network service of the request relevant to a TV broadcast program is realizablea televiewer viewing and listening to a TV broadcast program.
[0100]According to the television signal receiving set according to claim 3 and the television signal receiving method according to claim 6. From the television broadcasting signal which the signal including the network domain information that the network service relevant to a television broadcasting program is provided has multiplexed. Since the predetermined data signal which extracts domain informationconnects with the predetermined access point corresponding to network domain informationand is transmitted from the connected access point is received and the received data signal was processedThe televiewer can enjoy the target network service promptly and automatically by easy operation.
[0101]Since it was made to be operated according to a remote control according to claim 7 and the remote control method according to claim 8 when making the domain information memorized to the television signal receiving set start accessAn operation mistake when connecting with the target network service can be preventedand operativity can be raised.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1]It is a block diagram showing the example of composition of the television broadcasting apparatus 1 of this invention.
[Drawing 2]It is a block diagram showing the composition of one example of the television receiver 21 adapting the television signal receiving set of this invention.
[Drawing 3]It is a figure showing the composition of one example of the remote commander 23.
[Drawing 4]It is a flow chart explaining the processing operation of the television receiver 21 of drawing 2.
[Drawing 5]It is a figure showing the 1st display example displayed on CRT43.
[Drawing 6]It is a figure showing the 2nd display example displayed on CRT43.
[Drawing 7]It is a figure showing the 3rd display example displayed on CRT43.
[Drawing 8]It is a figure showing the display example of the offer screen of the network service displayed on CRT43.
[Drawing 9]It is a block diagram showing the composition of the 1st example of the VBI receiver adapting the television signal receiving set of this invention.
[Drawing 10]It is a block diagram showing the composition of the 2nd example of the VBI receiver adapting the television signal receiving set of this invention.
[Description of Notations]
1 TV broadcast device
2 Antenna
11 Television signal generation circuit
12 Network address signal generating circuit
13 Multiplexer
14 Sending circuit
21 Television receiver
22 TV antenna
23 Remote commander
24 Modular jack
31 Tuner
32 BVI data slicer
33 Video / audio selection circuitry
34 Microprocessor
35 RAM

36 ROM
37 Video encoder
38 Data modem
39 Audio encoder
40 Audio signal amplifying circuit
41 Video signal control circuit
42 RGB code amplifying circuit
43 CRT
44 Loudspeaker
45 Light sensing portion
46 Navigational panel
51 VBI receiver
52 Loudspeaker
53 CRT
61 VBI receiver
62 Antenna
63 Terminal terminal
64 Loudspeaker
65 CRT